Listing of Claims

This listing of claims replaces all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method of normalizing an output of a receiver, the method comprising:

determining a normalization factor using a determined variance of multiple access interference; and

applying the normalization factor to the output of the receiver.

2. (Currently Amended) The method of Claim 1, ~~further comprising~~ wherein applying the normalization factor comprises normalizing each symbol output from the receiver with a normalization factor that is independent of normalization factors of previous symbols.

3. (Currently Amended) The method of Claim 1, further comprising obtaining a metric correction factor ~~from~~ using the normalization factor.

4. (Original) The method of Claim 1, further comprising providing the metric correction factor to a channel decoder.

5. (Currently Amended) The method of Claim 1, ~~further~~ wherein applying the normalization factor ~~comprising~~ comprises

determining the log likelihood ratio (LLR) according to the following equation:

$$LLR(n) = -\frac{2r(n)g(n)}{\sigma_T^2(n)}$$

where:

r(n) is the detector output of the n^{th} symbol;

g(n) is the time varying gain associated with the desired ~~signal~~ symbol; and

$\sigma_T^2(n)$ is the total noise variance.[[.]]

6. (Currently Amended) The method of Claim 5, further comprising determining the ~~total noise~~ variance of multiple access interference analytically.

7. (Currently Amended) The method of Claim 5, further comprising determining the ~~total noise~~ variance of multiple access interference empirically.

8. (Original) The method of Claim 1, further comprising employing multiuser detection to obtain the output of the receiver.

9. (Currently Amended) A receiver comprising:

a detector ~~which receives~~ to receive transmitted information and provides one or more output symbols based on the transmitted information;

a metric correction section ~~which normalizes~~ to normalize the one or more output symbols to obtain ~~a~~ one or more ~~metric~~ metrics, the normalization based on a determined variance of multiple access interference; and

a channel decoder ~~which receives~~ to receive the one or more ~~metric~~ metrics from the metric correction section, the channel decoder ~~utilizing~~ to utilize the one or more ~~metric~~ metrics to decode the transmitted information.

10. (Currently Amended) The receiver of Claim 9, wherein the detector ~~is~~ comprises a multiuser detector.

11. (Currently Amended) The receiver of Claim 9, wherein the detector ~~is~~ comprises a rake detector.

12. (Currently Amended) The receiver of Claim 9, wherein the metric is based on a log likelihood ratio.

13. (Currently Amended) The receiver of Claim 9, wherein the metric correction section determines ~~a~~ one or more normalization ~~factor~~ factors to apply to the one or more output symbols of the detector.

14. (Currently Amended) The receiver of Claim 9, wherein the detector ~~is~~ comprises a long code CDMA detector.

15. (Currently Amended) The receiver of Claim 14, wherein the metric correction section ~~normalizes~~ is to normalize each output symbol on a symbol by symbol basis with a normalization factor that is independent of the normalization factors of previous symbols.

16. (Currently Amended) The receiver of Claim 9, wherein the metric ~~of~~ is based on a log likelihood ratio for BPSK signaling that is determined from the following equation:

$$LLR(n) = -\frac{2r(n)g(n)}{\sigma_T^2(n)}$$

where:

r(n) is the detector output of the n^{th} symbol;

g(n) is the time varying gain associated with the desired ~~signal~~ symbol; and

$\sigma_T^2(n)$ is the total noise variance.[[.]]

17. (Currently Amended) The receiver of Claim 16, wherein the variance of the ~~total noise variance~~ multiple access interference is determined analytically.

18. (Currently Amended) The receiver of Claim 16, wherein the variance of the ~~total noise variance~~ multiple access interference is determined empirically.

19. (Currently Amended) A method comprising:

receiving one or more output ~~signals~~ symbols from a detector;

determining a normalization factor for each of the one or more output ~~signals~~ symbols, each normalization factor being independent of normalization factors for previous output symbols;

multiplying each of the one or more output ~~signals~~ symbols by the corresponding normalization factor to obtain a metric correction; and

providing the metric correction for each symbol to a channel decoder.

20. (Original) The method of Claim 19, further comprising decoding a transmission using the metric correction.

21. (Currently Amended) The method of Claim 19, further comprising determining the ~~metric correction log likelihood ratio metric~~ normalization factor ~~according to~~ based on the following equation:

$$LLR(n) = -\frac{2r(n)g(n)}{\sigma_T^2(n)}$$

where:

r(n) is the detector output of the n^{th} symbol;

g(n) is the time varying gain associated with the desired

~~signal~~ symbol; and

$\sigma_T^2(n)$ is the total noise variance.[[.]]

22. (Currently Amended) The method of Claim 21, further comprising determining a variance of ~~the total noise variance~~ a level of multiple access interference analytically.

23. (Currently Amended) The method of Claim 21, further comprising determining a variance of ~~the total noise variance~~ a level of multiple access interference empirically.

24. (New) A method comprising:

receiving an symbol;

determining a normalization factor for the symbol using a determined variance in a level of multiple access interference for the symbol;

normalizing the symbol with the normalization factor; and

providing the normalized symbol to a channel decoder.

25. (New) The method of claim 24, wherein determining the normalization factor comprises:

determining a time varying gain associated with a desired symbol; and

determining the variance in the level of multiple access interference for the symbol.

26. (New) The method of claim 25, wherein determining the normalization factor further comprises determining the variance in a noise term that is independent of the variance in the level of multiple access interference.

27. (New) The method of claim 24, wherein normalizing the symbol with the normalization factor comprises multiplying the symbol by a log likelihood ratio.

28. (New) The method of claim 27, wherein multiplying the symbol by the log likelihood ratio comprises multiplying the symbol by $LLR(n) = -\frac{2r(n)g(n)}{\sigma_T^2(n)}$

where:

r(n) is an output of the symbol;

g(n) is the time varying gain associated with the desired symbol; and

$\sigma_T^2(n)$ is the total noise variance.